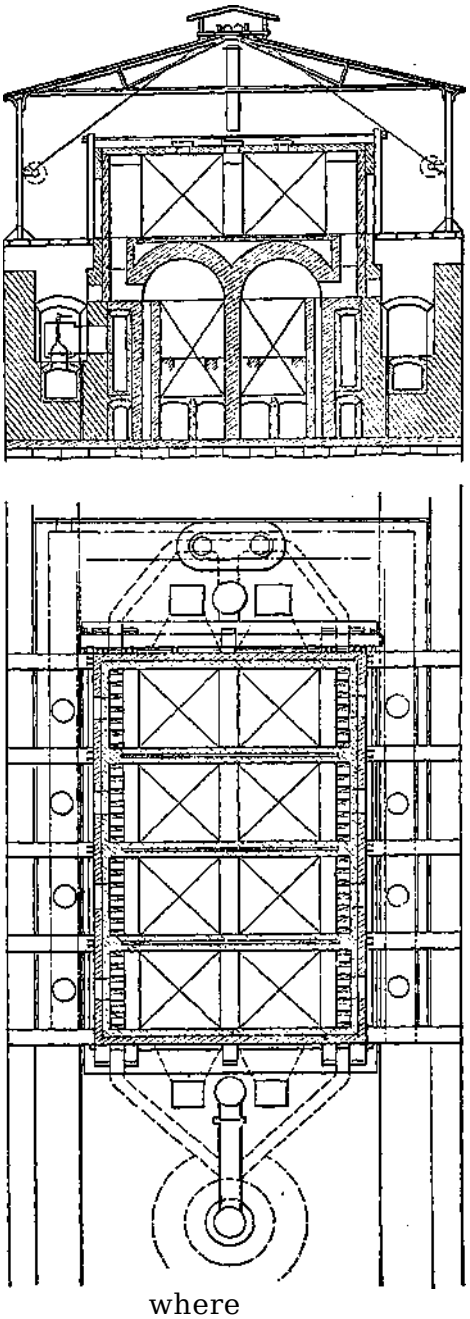

modified in reconstructing existing brick kilns to suit this method of firing.

As the reader may see, the transition from the consideration of the gradual or continuous heating furnace, the simple inverted weir, to the consideration of the chamber furnace with down-draft is readily made. The chambers of these furnaces are computed upon the basic idea of the time during which it is necessary for the hot gases to remain in the chamber, and this in turn is fixed by the drop in temperature of the heated gases per second. But, in designing and constructing these furnaces, it is necessary to depend upon Yesmann's formula in all those cases where the flow of the gases in motion takes place under an inverted weir.

For example, in a

furnace with working openings closed by doors, the height of the door openings should not exceed *hi.* If the waste gas flues leave the fur-

X

FIGS. 38, 39.